

# Strategy to Optimize Resource Management of Storm Water

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## Monitoring Council Presentation

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December 13, 2016



# Presentation Outline

1. Storm Water Strategy Background
2. Phase I Project Summary
3. STORMS Seminar Series
4. Building Standards Code Updates
5. Project 6b: Source Control
  - DTSC Petition
  - Protect Every Drop
6. Project 6a: Urban Pesticide Amendments



# Storm Water Strategy

## Vision:

**Storm Water is sustainably managed and utilized in California** to support water quality and water availability for human uses as well as the environment.

## Mission:

To lead the evolution of storm water management in California by **advancing the perspective that storm water is a valuable resource**, supporting policies for collaborative watershed-level storm water management and pollution prevention, removing obstacles to funding, developing resources, and integrating regulatory and non-regulatory interests.

*Photo: Kevin Robert Perry*



# Storm Water Strategy

- Three-phased project implementation:
  - project priority
  - issues the project addresses
  - project scope
  - regional pilot projects available
  - Water Board resources available
  - contract funding
- **Phase I projects**
  - 9 projects, target start in 2016, target completion 2018-2020
- **Phase II projects**
  - 10 projects, target start in 2019, target completion 2021-2024
- **Phase III projects**
  - 4 projects, target start 2022-2028, target completion 2023-2030



# Core Implementation Committee

External coordinating and advisory body that provides a forum for information exchange, consideration of project challenges and improvements, and development of collective **feedback and recommendations to Water Board Staff and Management**

- Quarterly Meetings
- Project Champions
- Sub-Committee Facilitation
- Resource Support



CCEEB



CALIFORNIA  
COASTKEEPER.  
ALLIANCE



# STORMS Phase I Projects

Target  
Start

Target  
Completion

Promote Storm Water Capture and Use

2016

2018

Identify and Eliminate Barriers to Storm Water Capture and Use

2016

2019

Develop Guidance for Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations

2016

2019

Develop Watershed-Based Compliance and Management Guidelines and Tools

2016

2019

Implement Senate Bill 985 – Incorporate Principles of Storm Water Resource Plan Guidelines into Storm Water Programs

2016

2018

Eliminate Barriers to Funding Storm Water Programs and Identify Funding for Storm Water Capture and Use Projects

2016

2018

Create Storm Water Program Data and Information “Open Data”

2016

2020

Establish Statewide Framework for Urban Pesticide Reduction

2016

2018

Identify Opportunities for Source Control and Pollution Prevention

2016

2020

# Objective 1: Increase Storm Water Capture and Use



*Photo: Texas A&M AgriLife Extension Service*

- **Project 1a:** Promote Storm Water Capture and Use
- **Project 1b:** Identify and Eliminate Barriers to Storm Water Capture and Use
  - Regulatory
  - Water Rights
  - Water Quality
  - Infrastructure
  - Etc....



# Objective 3: Establish Permit Pathways to Assess Storm Water Programs



Photo: Kevin Robert Perry

- **Project 3a:** Develop Guidance for Alternative Compliance Approaches for Municipal Storm Water Permit Receiving Water Limitations
- **Project 3b:** Develop Watershed-Based Compliance and Management Guidelines and Tools

**On hold** due to LA MS4 permit petition



# Objective 4: Establish Financially Sustainable Storm Water Programs



**Project 4a:** Implement Senate Bill 985 – Incorporate Principles of Storm Water Resource Plan Guidelines into Storm Water Programs

Prop 1 Storm Water Grant Program Awarded Funding List

- Project Planning Grants
- Project Implementation Grants

[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/swgp/prop1/](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/prop1/)

*Photo: Kevin Robert Perry*



# Objective 4: Establish Financially Sustainable Storm Water Programs



Photo: Kevin Robert Perry

**Project 4b:** Eliminate Barriers to Funding Storm Water Programs and Identify Funding for Storm Water Capture and Use Projects

- Storm water funding workshops: Winter 2017



# Objective 5: Improve & Align State Board Oversight of Storm Water Programs

## Project 5a: Create Storm Water Program Data and Information “Open Data”

- <https://data.ca.gov/>
- Five datasets from SMARTS on the CA Open Data Portal



# Objective 6: Increase Source Control and Pollution Prevention

- **Project 6a:** Establish a Statewide Framework for Urban Pesticide Reduction
- **Project 6b:** Identify Opportunities for Source Control and Pollution Prevention



Photo: United Storm Water Inc., [www.thebluebook.com](http://www.thebluebook.com)



# STORMS Seminar Series

The STORMS Seminar Series is an open forum to feature new research, technologies, policies, and news relating to our mission of advancing the perspective that storm water is a valuable resource.

## Past Seminars

- Enhancing Urban Development with LID Designs in Sacramento – Maureen Kerner & Dalia Fadl
- Integrating Green Infrastructure into our Built Environment – Kevin Perry
- Using Deep Infiltration and Drywells for Groundwater Recharge – James Mayer
- Living Schoolyards for Storm Water Management – Sharon Danks & Jeff Vincent
- Using Graywater and Storm Water to Enhance Local Water Supplies – Dr. Richard Luthy
- Real-Time Cloud-Based Continuous Monitoring and Adaptive Storm Water Control – Judd Goodman

Recordings available at:

[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/storms/seminar\\_series.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/seminar_series.shtml)



# Update Building Standards Code



California Department of  
Housing and Community Development

## Goal

- Improve awareness of construction Best Management Practice requirements and lead to enhanced on-site retention and infiltration where storm water is used as a resource
- Help developers avoid costly post-design revisions and/or construction change orders, if permit requirements are not included in the initial design.

*CAL*Green



# Update Building Standards Code



California Department of  
**Housing and Community Development**

## 2016 Triennial Code Adoption Cycle

Propose to amend portions of Chapter 5 Nonresidential Mandatory Measures of the California Green Building Standards Code

- Site Development Sections
- Reference storm water management requirements found in the Construction General Permit

*CAL*Green



# Project 6b: Identify Opportunities for Source Control and Pollution Prevention

Identify opportunities to control storm water pollutants through measures of pollution prevention during the pollutant life-cycle.

Currently Two Projects:

- Petition the Department of Toxic Substances Control's Safer Consumer Product program to prioritize Zinc in Tires as a Chemical-Product combination
- Protect Every Drop – Educational campaign aimed at helping change the behavior of Californians in ways that lead to improved water quality



# Project 6b: Identify Opportunities for Source Control and Pollution Prevention – DTSC Petition



SAFER  
CONSUMER  
PRODUCTS (SCP)



## Safer Consumer Products

- SB 346 (2010) Copper in Brake pads legislation resulted in DTSC issuing Regulations
- Safer Consumer Products program
- Priority Product Work Plan (2015-17)



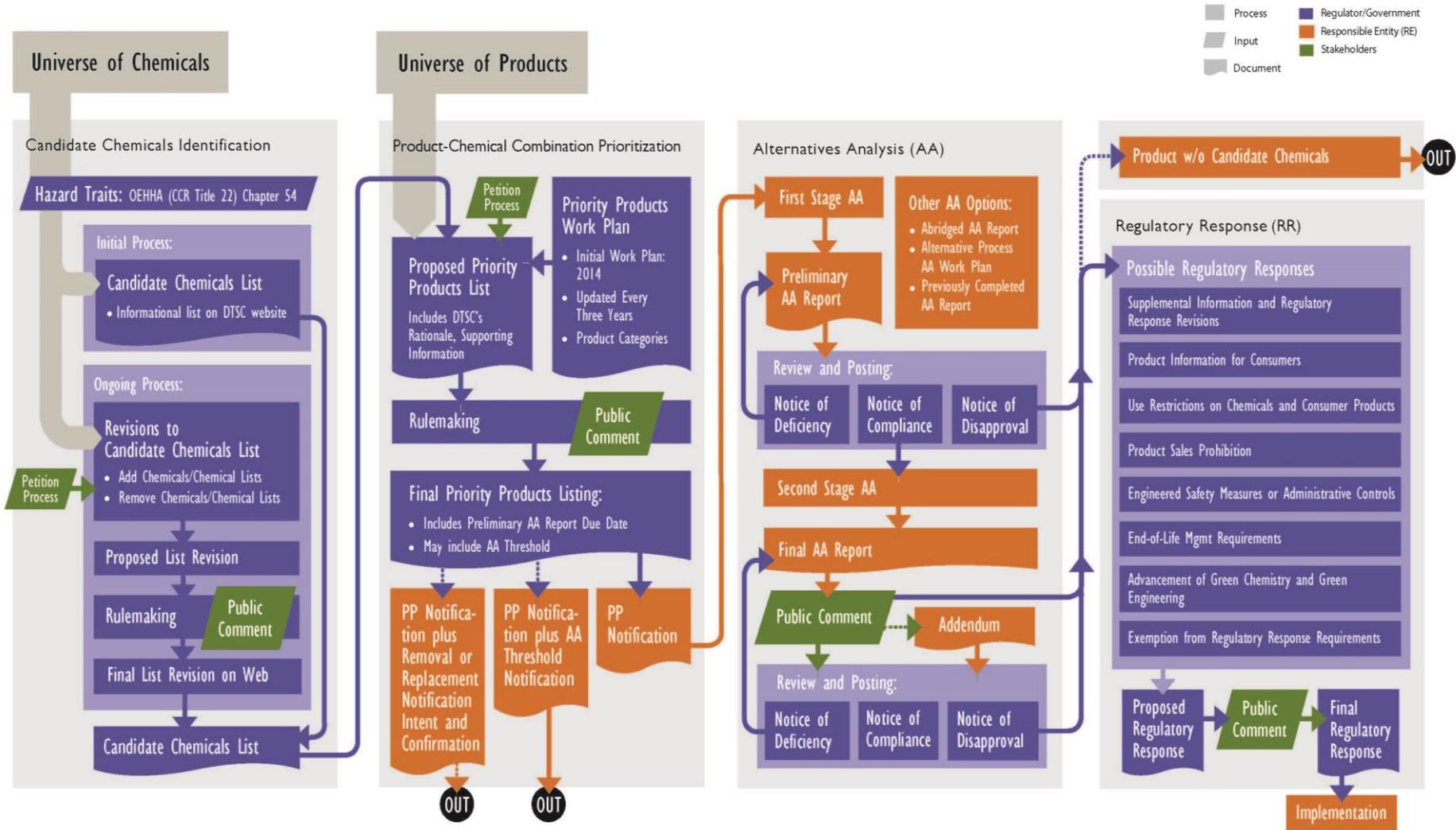
 Priority Product  
Work Plan  
Three Year Work Plan | 2015 - 2017  
JUNE 2015  
SAFER CONSUMER PRODUCTS BRANCH  
DEPARTMENT OF YORK BUSINESS CONTROL

## Petitions to:

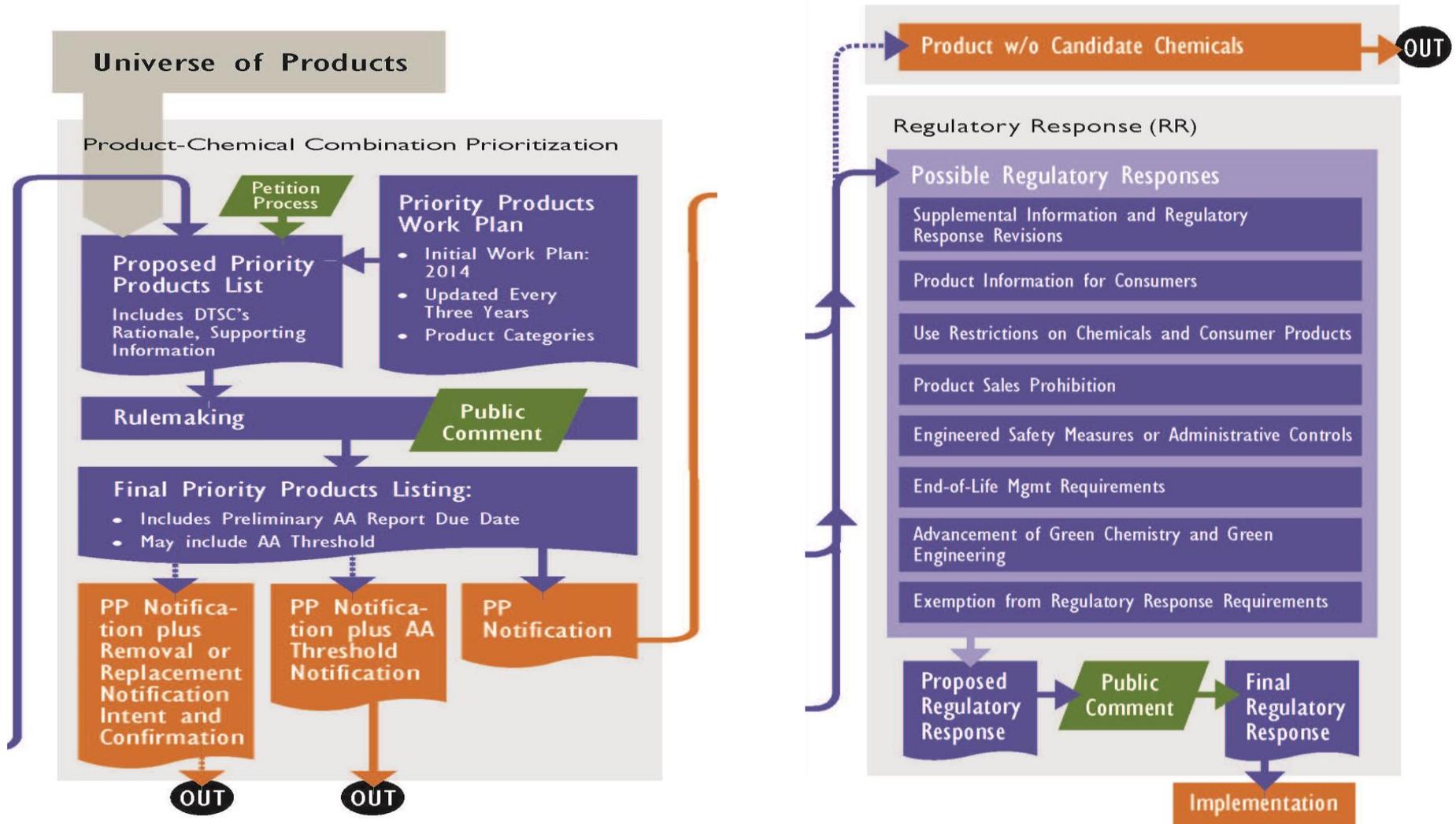
- Add or remove any chemical-product combination from the Priority Products list



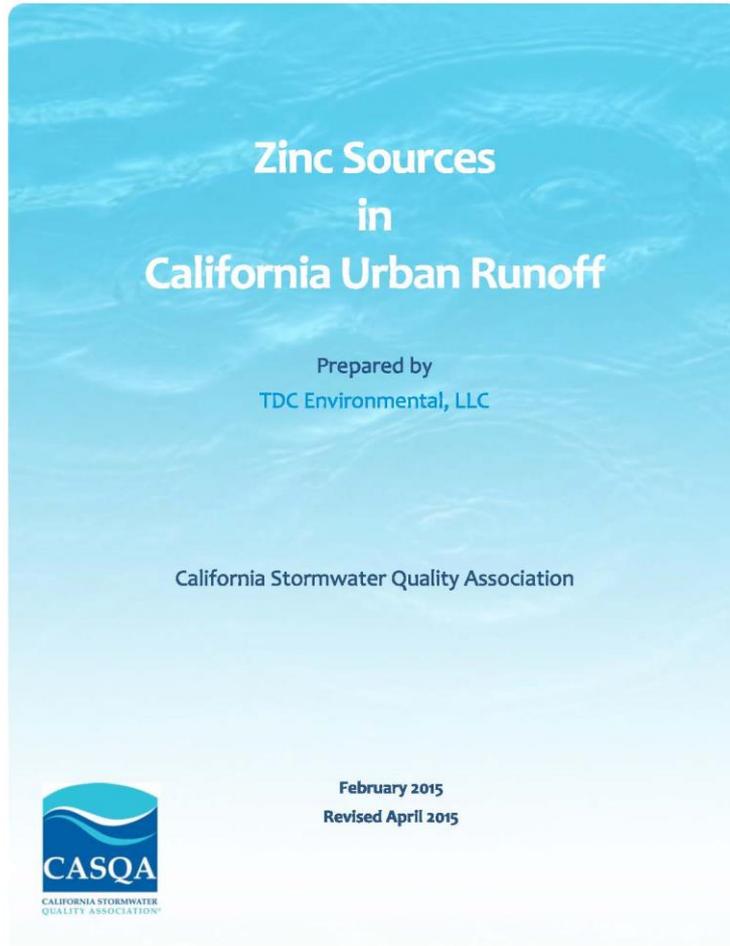
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# Project 6b: Identify Opportunities for Source Control and Pollution Prevention – DTSC Petition



SAFER  
CONSUMER  
PRODUCTS (SCP)



Evaluation of Zinc Sources in Urban Runoff was identified as a potential pilot project

- Met with the International Zinc Association, Rubber Manufacturers Association and CASQA

Next Step:

- Currently identifying data gaps in order to submit a petition to DTSC through their Safer consumer product program



# Project 6b: Identify Opportunities for Source Control and Pollution Prevention – Protect Every Drop



## Trash Your Trash

Clean Water Starts With Clean Highways.

 [Learn More](#)



## Protect Every Drop

Clean Water Starts With Clean Highways.

 [Learn More](#)



## Recycle Your Recyclables

Clean Water Starts With Clean Highways.

 [Learn More](#)



## Monitor Your Tire Pressure

Clean Water Starts With Clean Highways.

 [Learn More](#)



## Don't Leave Your Load Behind

Clean Water Starts With Clean Highways.

 [Learn More](#)



## Properly Dispose of Pet Waste

Clean Water Starts With Clean Highways.

 [Learn More](#)



## Properly Dispose of Your Cigarettes

Clean Water Starts With Clean Highways.

 [Learn More](#)



# Project 6b: Identify Opportunities for Source Control and Pollution Prevention – Protect Every Drop



## Protect Every Drop



Three-year educational campaign aimed at helping change the behavior of Californians in ways that lead to improved water quality

- Vehicle Maintenance
- Trash/recycling
- Alternative Transportation
- At home practices

### Implementation Committee

- Caltrans
- Water Boards
- CASQA



**Protect Every Drop**  
Clean Water Starts With Clean Highways.

[Learn More](#)



# Project 6b: Identify Opportunities for Source Control and Pollution Prevention – Protect Every Drop



## Protect Every Drop



Pre-campaign survey was conducted to measure California highway drivers' awareness, attitudes and behaviors when it comes to maintaining clean highways for the purposes of clean waterways.

- Nearly **50%** admit to sometimes littering along the state's highways
- **19%** confirmed they improperly disposed of items ranging from old furniture and appliances to green waste from their yard
- **6%** admitted that they fail to pick up pet waste on the side of the highway

"These findings are staggering because this is not accidental public behavior, but rather a conscious decision to improperly discard or leave behind debris along California freeways."

Malcolm Dougherty, Director, Caltrans

Confounding results:

84% "believe there is a connection between highway pollution and the quality of water and that encourages them to maintain their vehicle properly and not litter or cause pollution on highways."

<http://www.dot.ca.gov/paffairs/pr/2016/prs/16pr050.html> - <http://www.dot.ca.gov/paffairs/pr/2016/prs/16pr050.html>

# Project 6b: Identify Opportunities for Source Control and Pollution Prevention – Protect Every Drop



## Protect Every Drop



### Past Events

- December Nights (12/2/16) – Balboa Park in San Diego
- Swimmable CA Day (7/24/16) – American River, Discovery Park, Sacramento
- San Diego Bacon Festival (9/3/16) - PREBLE FIELD AT NTC PARK LIBERTY STATION - POINT LOMA
- Annual Taste of Downtown (9/15/16) – San Diego
- 2016 San Diego Heart & Stroke Walk (9/17/16) – San Diego
- 32<sup>nd</sup> Annual Coastal Cleanup (9/17/16) – East Bay Regional Park District
- 2016 Bay Day (10/1/16) – San Francisco Bay Area with Save the Bay
- 49<sup>th</sup> Annual Native American Day – CA State Capitol



<http://www.protecteverydrop.com/calendar/>

**Protect Every Drop**  
Clean Water Starts With Clean Highways.

 Learn More



# Project 6b: Identify Opportunities for Source Control and Pollution Prevention – Protect Every Drop



## Protect Every Drop



### Public Materials Toolkit

Free educational materials are available including:

- Infographics
- Billboards
- Banners Ads
- Mall Backlit signs
- Posters
- Flyers

Available in English, Spanish and several other languages

Visit: <http://www.protecteverydrop.com/doing-your-part/public-materials-toolkit>



**Protect Every Drop**  
Clean Water Starts With Clean Highways.

 Learn More



# Project 6b: Identify Opportunities for Source Control and Pollution Prevention – Protect Every Drop



Protect Every Drop



Check out <http://www.protecteverydrop.com/> and take the pledge



Keep a look out for TV, radio and billboard

Follow along at #ProtectEveryDrop and at <https://www.facebook.com/CaltransHQ>



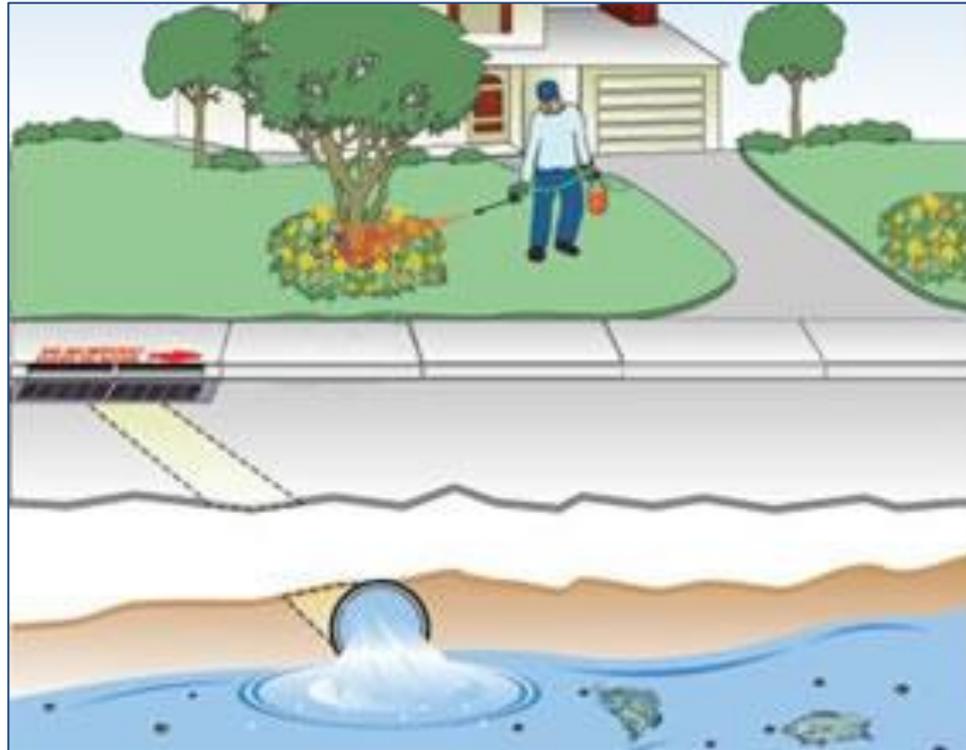
Protect Every Drop  
Clean Water Starts With Clean Highways.

[Learn More](#)



# Urban Pesticides Reduction

## **STORMS Project 6a:** Establish a Statewide Framework for Urban Pesticide Reduction



*Photo: University of California Integrated Pest Management*

### **Goal- create a statewide plan to:**

- Achieve water quality standards for pesticides and toxicity in urban receiving waters and prevent future impairments through implementation of a statewide program for pesticides source control.

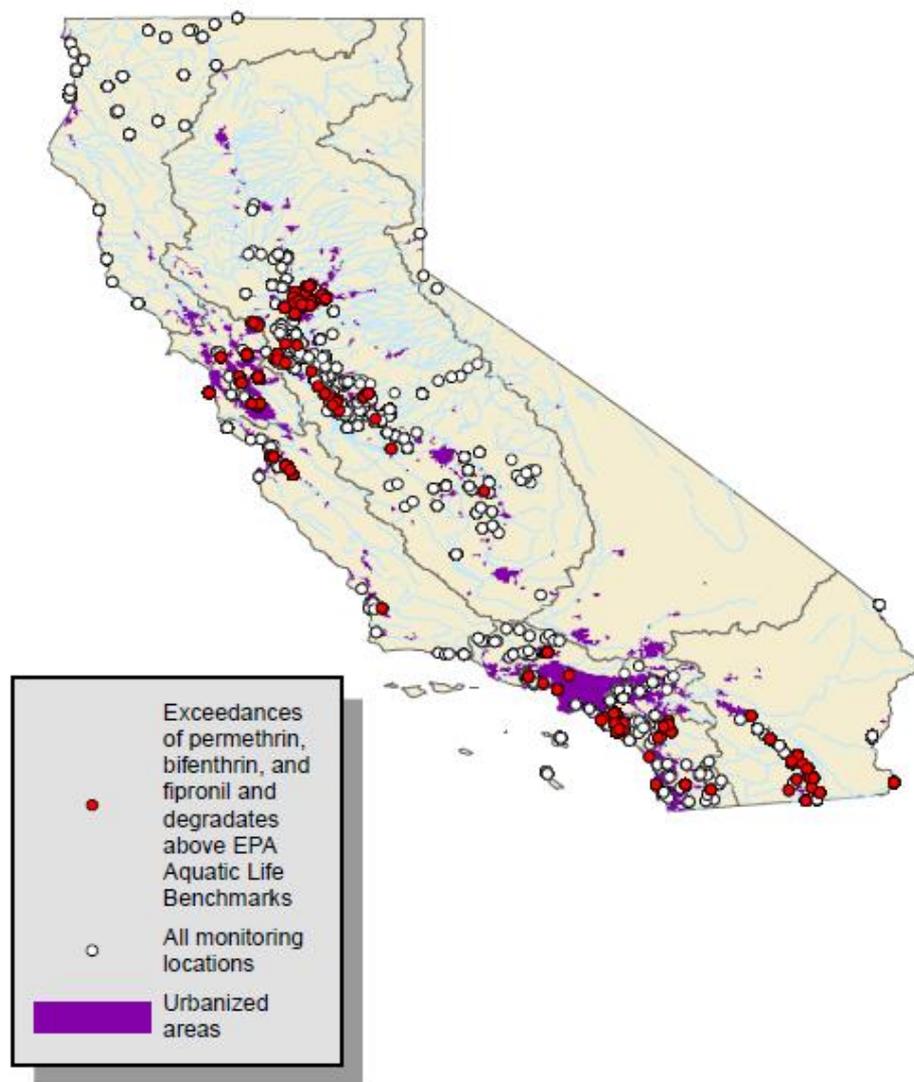
### **How? - Amendments to statewide water quality control plans**



# Pesticide toxicity in surface water: a statewide problem

High priority pesticides exceeding US EPA Aquatic Life Benchmarks:

- Pyrethroids (permethrin and bifenthrin)
- Fipronil and degradates



# Pesticides in Urban Runoff



- Pesticides applied in urban areas for structural control and landscaping can wash off in rain events directly into receiving waters



# Urban Pesticides Amendments: 3 Legs

## 1. Pesticide Source Control Requirements for MS4 Permittees

- Establish minimum source control requirements for large (Phase I) and small (Phase II) municipal storm water permittees

## 2. Monitoring Coordination Framework

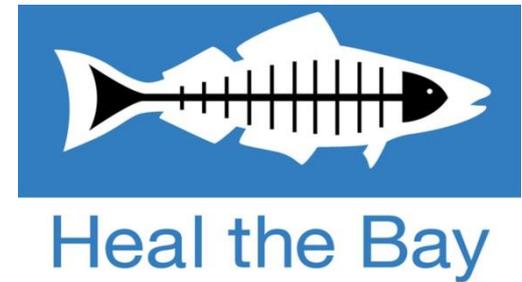
- Design a framework to coordinate urban pesticide/toxicity monitoring between the Water Boards, DPR, and MS4s

## 3. Regulatory Coordination Framework

- Framework for working with U.S. EPA Office of Pesticide Programs and DPR on proactive registration and discharge management of urban pesticides

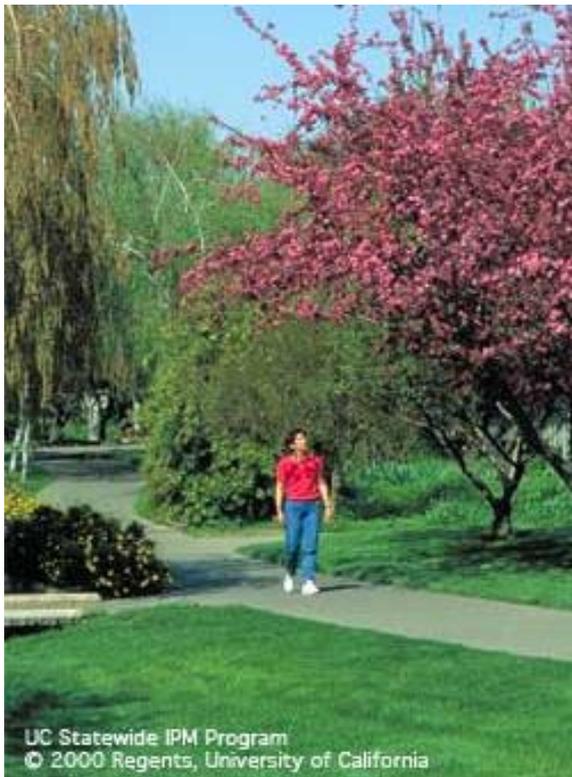


# Project Team

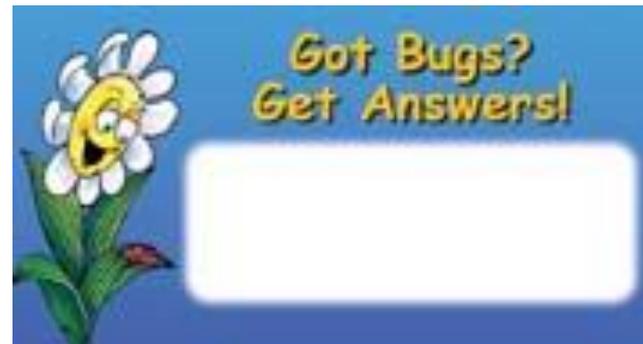


# Proposed MS4 Source Control Measures

Focus on implementation of Integrated Pest Management (IPM) and educational outreach



HELPING CONSUMERS FIND LESS-TOXIC PRODUCTS  
FOR USE IN THEIR HOMES AND GARDENS



# Integrated Pest Management (IPM):

“IPM is an ecosystem-based strategy that focuses on **long-term prevention** of pests or their damage through a combination of techniques such as **biological control, habitat manipulation, modification of cultural practices**, and use of **resistant varieties**. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of **removing only the target organism**. Pest control materials are selected and applied in a manner that **minimizes risks** to human health, beneficial and nontarget organisms, and the environment.” **-UC IPM**

# Monitoring Coordination Framework

- Developed collective monitoring goals, questions, and objectives for a question-driven program



Photo: Water Board SWAMP program



# Monitoring Coordination Framework



Photo: Water Board SWAMP program

- Current progress:  
Creating a framework for a coordinated monitoring program with an associated cost estimate
  - Challenge: identifying pesticide monitoring requirements in each MS4 permit for the cost estimate



# STORMS Website

[waterboards.ca.gov/STORMS](http://waterboards.ca.gov/STORMS)

The screenshot displays the STORMS website interface. At the top, it features the California Environmental Protection Agency logo and the State Water Resources Control Board name. A navigation bar includes links for Home, About Us, Public Notices, Board Info, Board Decisions, Water Issues, Publications/Forms, and Press Room. Below this is a green banner with 'Programs | Available Documents | Hot Topics |'. The main content area is titled 'Strategy to Optimize Resource Management of Storm Water (Storm Water Strategy, STORMS)'. It includes a mission statement: 'STORMS' mission is to lead the evolution of storm water management in California by advancing the perspective that storm water is a valuable resource, supporting policies for collaborative watershed-level storm water management and pollution prevention, removing obstacles to funding, developing resources, and integrating regulatory and non-regulatory interests.' There is also an 'Announcements' section with a 'New!' notice about SMARTS datasets. A 'Projects' section is visible with tabs for STORMS, Seminar Series, and Implementation Committee. The sidebar on the left contains links for CalEPA, State and Regional Water Boards' Map, Board Priorities, Laws/Regulations, Make a Payment, Plans/Policies, Programs, and Decisions Pending and Opportunities for Public Participation. It also features a 'File an Environmental Complaint' button and social media links.

What's  
New

STORMS  
Description

Project  
Details

How to  
Help

# STORMS Upcoming Milestones

- Winter 2017 – Storm water Funding Workshops co-hosted with EPA
- Urban Pesticide Amendments CEQA Scoping Meetings:
  - March 2017
- Developing two STORMS Seminar Series
  - “Storm water management using customized science based software” by 2ndNature
  - Clean Transportation and the Effects to Clean Air, Water, and Soil



# Thank You

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